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## ON THE MEASUREMENTS AND WEIGHTS OF THE EGGS OF THE COMMONER CHARADRIIDÆ.

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It would be difficult to find a subject of such general interest to ornithologists—and especially to oologists—that has been more neglected than the weights of birds' eggs. The reason for this is not easy to find, for it is hard to believe that the trouble involved can have deterred a body of men who, whatever their faults may be, spare neither time nor labour in the prosecution of their favourite study. A more probable explanation is that the importance of the subject was, until recently,\* never fully realized; and that ornithologists, in the past, found ample scope for the exercise of their talents in gleaning the vast amount of exact information now accumulated. At the present time, when the number of workers is continually being augmented and specialization is the order of the day, it is but natural that many subjects, previously overlooked, should be taken up and thoroughly investigated.

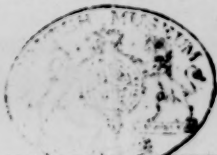
Considerable importance has always been attached to the size of birds' eggs, and one has only to consult any of the standard works on ornithology to learn how carefully their measurements have been ascertained. But a knowledge of the length and breadth of an egg enables one to form only an inadequate conception of its size. This is specially noticeable in the case of the order under consideration, for the eggs of the *Limicolæ* may

\* 'Zoologist,' 1901, pp. 110, 111; 'Irish Naturalist,' November, 1901, and October, 1902.

be either obtusely or acutely pyriform. An egg of *Hematopus ostralegus*, e. g., owing to its shape, has a greater displacement than one of *Charadrius plumialis* of the same length and breadth. Another conspicuous drawback to the method of estimating the size of eggs by their measurements alone is at once apparent when those of several species have to be compared. It is almost impossible to form a just appreciation where two factors, both very variable, are all the data in one's possession. Now, it is when several sorts of eggs have to be contrasted that the real value of a knowledge of their weights is revealed. Apart from the advantage of having only one set of figures to consider, in absolutely fresh specimens, under normal conditions, disparity in weight indicates a superiority or inferiority in size, and the difference in weight represents the true difference in mass.

Much more might be adduced in favour of the hypothesis, that a knowledge of the weights of eggs is more useful than a knowledge of their measurements; but no useful purpose would be served by prolonging this argument. We cannot, however, leave the subject without illustrating the benefit accruing from a judicious consideration of measurements and weights when taken in conjunction. An oologist, with a precise knowledge of the measurements and weights of the eggs of the *Limicolæ*, reading a description of those of the *Gaviæ*, could readily deduce the more obtuse pyriformity of the latter, if their lengths, breadths, and weights were given.

In compiling the following statistics we have not included particulars of abnormal eggs, for, however interesting they may be to the specialist, they supply no material help to the intelligent study of ornithology. At the same time, mistakes arising from purely natural causes are so easily overlooked, that we must make special mention of a few of them. The subtle changes incident to the development of the embryo exert a profound influence on the weight of an egg; and, as nearly all "errors of observation" arise from this cause, we have made it a rule to reject any eggs in which incubation has advanced beyond the stage of the "primitive streak." Another source of error is the keeping of eggs for some time before weighing them, for as soon as an egg is laid it begins to lose weight owing to evaporation. In small eggs this loss, it is true, is infinitesimal; but in large



porous-shelled eggs, which have been kept for a few days in a warm room, it is a serious item. When clutches are large, *e. g.* in the case of *Gallinæ* or *Fulicariæ*, if the weather be warm, the first egg laid must necessarily lose a considerable amount of weight before the full complement is reached. Inaccuracies arising from this cause are unavoidable.

With these introductory remarks we shall now consider the measurements and weights of birds' eggs in intension.

## COMMONER CHARADRIIDÆ.

Clutches marked "absolutely fresh" were weighed only a few hours after the last egg was laid. Those marked "fresh" were complete when found, but on careful examination showed no sign of incubation. For practical purposes these terms may be regarded as synonymous.

## ÆGIALITIS HIATICA. Ringed Plover.

Particulars of Clutches	Length, inches	Breadth, inches	Weight, grammes
A. <i>A. hiaticola</i> .....	1·342	1·006	10·742
Number of eggs in clutch—four	1·341	1·043	11·044
Condition—absolutely fresh.....	1·362	1·037	11·572
Taken on May 17th, 1902.....	1·418	1·036	11·790
Weight of clutch .....	.....	.....	45·148
B. <i>A. hiaticola</i> .....	1·361	1·012	11·262
Number of eggs in clutch—four	1·384	1·031	11·730
Condition—absolutely fresh.....	1·422	1·032	11·952
Taken on May 5th, 1904 .....	1·463	1·027	12·177
Weight of clutch .....	.....	.....	47·121
C. <i>A. hiaticola</i> .....	1·426	1·005	11·770
Number of eggs in clutch—four	1·419	1·021	11·940
Condition—fresh .....	1·482	1·008	12·285
Taken on May 5th, 1902 .....	1·394	1·038	12·299
Weight of clutch .....	.....	.....	48·294
D. <i>A. hiaticola</i> .....	1·350	1·053	12·182
Number of eggs in clutch—four	1·405	1·050	12·352
Condition—absolutely fresh.....	1·478	1·049	12·953
Taken on May 5th, 1904 .....	1·438	1·067	12·963
Weight of clutch .....	.....	.....	50·450

## CHARADRIUS PLUVIALIS. Golden Plover.

Particulars of Clutches	Length, inches	Breadth, inches	Weight, grammes
A. <i>C. pluvialis</i> .....	2.070	1.378	31.857
Number of eggs in clutch—four	2.046	1.383	32.113
Condition—absolutely fresh .....	2.049	1.400	32.832
Taken on April 27th, 1901 .....	2.135	1.391	33.865
Weight of clutch .....	.....	.....	130.167
B. <i>C. pluvialis</i> .....	2.062	1.368	32.169
Number of eggs in clutch—four	2.034	1.412	33.239
Condition—absolutely fresh .....	1.969	1.416	33.402
Taken on May 8th, 1902 .....	2.029	1.424	34.860
Weight of clutch .....	.....	.....	133.170
C. <i>C. pluvialis</i> .....	2.088	1.409	34.198
Number of eggs in clutch—four	2.040	1.467	36.163
Condition—absolutely fresh .....	2.114	1.462	36.932
Taken on April 27th, 1904 .....	2.152	1.468	38.072
Weight of clutch .....	.....	.....	145.365
D. <i>C. pluvialis</i> .....	1.998	1.447	35.836
Number of eggs in clutch—four	2.333	1.398	37.643
Condition—absolutely fresh .....	2.149	1.472	38.028
Taken on April 30th, 1904 .....	2.337	1.454	39.792
Weight of clutch .....	.....	.....	151.299

## VANELLUS VULGARIS. Lapwing.

A. <i>V. vulgaris</i> .....	1.797	1.326	25.907
Number of eggs in clutch—four	1.776	1.351	26.835
Condition—absolutely fresh .....	1.772	1.344	26.857
Taken on April 8rd, 1904.....	1.744	1.366	27.022
Weight of clutch .....	.....	.....	106.621
B. <i>V. vulgaris</i> .....	1.928	1.314	27.037
Number of eggs in clutch—four	1.917	1.330	27.667
Condition—absolutely fresh .....	1.953	1.318	27.958
Taken on April 5th, 1904.....	2.011	1.337	29.162
Weight of clutch .....	.....	.....	111.824



## VANELLUS VULGARIS—continued.

Particulars of Clutches	Length, inches	Breadth, inches	Weight, grammes
C. <i>V. vulgaris</i> .....	1·869	1·349	27·857
Number of eggs in clutch—four	1·920	1·341	28·112
Condition—absolutely fresh .....	1·931	1·371	29·242
Taken on April 3rd, 1904.....	1·961	1·368	29·577
Weight of clutch.....	.....	.....	114·788
D. <i>V. vulgaris</i> .....	1·939	1·353	28·720
Number of eggs in clutch—four	1·979	1·350	29·415
Condition—absolutely fresh .....	1·931	1·375	29·504
Taken on April 10th, 1903 .....	2·020	1·363	29·795
Weight of clutch .....	.....	.....	117·484

*Note.*—For additional particulars, see 'Field,' Dec. 19th, 1903. No. 2660.

## HÆMATOPUS OSTRALEGUS. Oystercatcher.

A. <i>H. ostralegus</i> .....	—	—	—
Number of eggs in clutch—three	2·204	1·528	42·881
Condition—fresh .....	2·250	1·532	44·519
Taken on May 5th, 1902 .....	2·265	1·541	45·460
Weight of clutch .....	.....	.....	132·860
B. <i>H. ostralegus</i> .....	—	—	—
Number of eggs in clutch—three	2·281	1·508	43·848
Condition—absolutely fresh .....	2·234	1·523	44·161
Taken on May 10th, 1902.....	2·255	1·570	47·848
Weight of clutch.....	.....	.....	135·357
C. <i>H. ostralegus</i> .....	—	—	—
Number of eggs in clutch—three	2·294	1·555	47·267
Condition—fresh .....	2·240	1·579	47·654
Taken on May 9th, 1903 .....	2·145	1·640	49·372
Weight of clutch.....	.....	.....	144·293
D. <i>H. ostralegus</i> .....	—	—	—
Number of eggs in clutch—three	2·281	1·602	50·164
Condition—absolutely fresh .....	2·310	1·595	50·307
Taken on May 7th, 1904 .....	2·160	1·648	50·666
Weight of clutch .....	.....	.....	151·187

## HEMATOPUS OSTRALEGUS—continued.

Particulars of Clutches	Length, inches	Breadth, inches	Weight. grammes
E. <i>H. ostralegus</i> .....	2.360	1.537	46.867
Number of eggs in clutch—four	2.340	1.569	48.304
Condition—absolutely fresh .....	2.382	1.599	50.272
Taken on May 5th, 1904 .....	2.417	1.587	50.857
Weight of clutch.....	.....	.....	196.300
F. <i>H. ostralegus</i> .....	2.302	1.554	48.559
Number of eggs in clutch—four	2.274	1.568	48.610
Condition—fresh .....	2.253	1.593	49.389
Taken on May 5th, 1902 .....	2.291	1.591	49.952
Weight of clutch .....	.....	.....	196.510

## SCOLOPAX RUSTICULA. Woodcock.

A. <i>S. rusticula</i> .....	1.685	1.256	22.725
Number of eggs in clutch—four	1.683	1.274	23.444
Condition—fresh .....	1.711	1.279	23.751
Taken on March 22nd, 1902 ...	1.670	1.290	23.905
Weight of clutch .....	.....	.....	98.825
B. <i>S. rusticula</i> .....	1.712	1.275	23.629
Number of eggs in clutch—four	1.742	1.296	24.787
Condition—absolutely fresh .....	1.772	1.294	25.025
Taken on May 8th, 1902 .....	1.748	1.302	25.462
Weight of clutch .....	.....	.....	98.903

## GALLINAGO CAELESTIS. Common Snipe.

A. <i>G. caelestis</i> .....	1.521	1.082	14.705
Number of eggs in clutch—four	1.477	1.087	14.865
Condition—absolutely fresh .....	1.507	1.104	15.603
Taken on June 9th, 1904. ....	1.546	1.098	15.627
Weight of clutch .....	.....	.....	60.800
B. <i>G. caelestis</i> .....	1.552	1.106	15.441
Number of eggs in clutch—four	1.591	1.104	15.646
Condition—absolutely fresh .....	1.682	1.087	15.820
Taken on May 4th, 1901 .....	1.563	1.118	16.056
Weight of clutch .....	.....	.....	62.963

## GALLINAGO CÆLESTIS—continued.

Particulars of Clutches	Length, inches	Breadth, inches	Weight, grammes
C. <i>G. cælestis</i> .....	1·586	1·119	16·128
Number of eggs in clutch—four	1·627	1·121	16·318
Condition—absolutely fresh .....	1·635	1·118	16·467
Taken on May 1st, 1901 .....	1·597	1·143	16·845
Weight of clutch .....	.....	.....	65·753
D. <i>G. cælestis</i> .....	1·543	1·123	16·212
Number of eggs in clutch—four	1·547	1·124	16·292
Condition—absolutely fresh .....	1·570	1·125	16·373
Taken on May 1st, 1901 .....	1·553	1·149	17·134
Weight of clutch .....	.....	.....	66·011
E. <i>G. cælestis</i> .....	1·634	1·122	16·863
Number of eggs in clutch—four	1·593	1·137	16·883
Condition—fresh .....	1·685	1·105	17·142
Taken on June 5th, 1904 .....	1·671	1·127	17·425
Weight of clutch .....	.....	.....	68·313

*Note.*—The fact that clutches A. and E. were taken in June inclines us to the belief that they are second or even third layings; if this be true, the disparity in their weights is particularly interesting.

## TRINGA ALPINA. Dunlin.

A. <i>T. alpina</i> .....	1·310	0·926	8·808
Number of eggs in clutch—four	1·351	0·909	8·878
Condition—absolutely fresh .....	1·308	0·932	9·105
Taken on May 24th, 1902.....	1·321	0·931	9·183
Weight of clutch .....	.....	.....	35,974
B. <i>T. alpina</i> .....	1·375	0·946	9·864
Number of eggs in clutch—four	1·324	0·970	10,080
Condition—fresh .....	1·345	0·979	10·395
Taken on May 24th, 1903 .....	1·360	0·973	10·457
Weight of Clutch .....	.....	.....	40·796
C. <i>T. alpina</i> .....	1·328	0·969	10·270
Number of eggs in clutch—four	1·367	0·988	10·700
Condition—absolutely fresh .....	1·367	0·986	10·875
Taken on May 15th, 1904.....	1·413	0·979	10·950
Weight of clutch.....	.....	.....	42·795

## TRINGA ALPINA—continued.

Particulars of Clutches	Length, inches	Breadth, inches	Weight, grammes
D. <i>T. alpina</i> .....	1·409	0·984	10·824
Number of eggs in clutch—four	1·388	0·996	11·081
Condition—absolutely fresh .....	1·417	0·990	11·386
Taken on May 21st, 1903 .....	1·435	0·991	11·474
Weight of clutch.....	.....	.....	44·765
E. <i>T. alpina</i> .....	1·504	0·998	11·887
Number of eggs in clutch—four	1·509	1·001	11·962
Condition—fresh .....	1·472	1·008	12·018
Taken on May 21st, 1903.....	1·481	1·036	12·575
Weight of clutch.....	.....	.....	48·442
TOTANUS HYPOLEUCUS. Common Sandpiper.			
A. <i>T. hypoleucus</i> .....	1·410	1·054	12·695
Number of eggs in clutch—four	1·409	1·061	12·752
Condition—absolutely fresh .....	1·470	1·032	12·912
Taken on May 20th, 1904.....	1·460	1·055	13·070
Weight of clutch.....	.....	.....	51·429
B. <i>T. hypoleucus</i> .....	1·406	1·055	12·542
Number of eggs in clutch—four	1·455	1·057	12·857
Condition—fresh .....	1·382	1·080	12·877
Taken on June 7th, 1902 .....	1·444	1·092	13·765
Weight of clutch.....	.....	.....	52·041
C. <i>T. hypoleucus</i> .....	1·441	1·056	13·110
Number of eggs in clutch—four	1·440	1·066	13·179
Condition—absolutely fresh.....	1·525	1·031	13·264
Taken on May 20th, 1903.....	1·468	1·072	13·859
Weight of clutch.....	.....	.....	53·412
D. <i>T. hypoleucus</i> .....	1·436	1·077	13·745
Number of eggs in clutch—four	1·517	1·058	14·175
Condition—absolutely fresh .....	1·499	1·080	14·434
Taken on May 20th, 1904.....	1·471	1·116	14·985
Weight of clutch .....	.....	.....	57·339



## TOTANUS CALIDRIS. Redshank.

Particulars of Clutches	Length, inches	Breadth, inches	Weight, grammes
A. <i>T. calidris</i> .....	1·749	1·174	19·425
Number of eggs in clutch—four	1·835	1·192	20·757
Condition—absolutely fresh .....	1·856	1·187	20·905
Taken on May 2nd, 1902 .....	1·802	1·205	21·077
Weight of clutch.....	.....	.....	82·164
B. <i>T. calidris</i> ..	1·775	1·239	21·842
Number of eggs in clutch—four	1·778	1·244	21·755
Condition—fresh .....	1·807	1·240	21·759
Taken on April 26th, 1902 .....	1·911	1·222	22·004
Weight of clutch.....	.....	.....	86·860
C. <i>T. calidris</i> .....	1·780	1·243	22·198
Number of eggs in clutch—four	1·750	1·275	22·718
Condition—fresh .....	1·785	1·267	23·076
Taken on April 26th, 1902 .....	1·862	1·263	23·771
Weight of clutch.....	.....	.....	91·763
D. <i>T. calidris</i> .....	1·851	1·242	22·458
Number of eggs in clutch—four	1·816	1·268	23·156
Condition—absolutely fresh .....	1·789	1·280	23·291
Taken on April 29th, 1901 .....	1·833	1·285	23·782
Weight of clutch .....	.....	.....	92·687

## NUMENIUS ARQUATA. Common Curlew.

A. <i>N. arquata</i> .....	2·712	1·855	75·909
Number of eggs in clutch—four	2·666	1·869	77·284
Condition—absolutely fresh .....	2·708	1·862	77·385
Taken on April 23rd, 1904 .....	2·791	1·909	83·475
Weight of clutch.....	.....	.....	314·053
B. <i>N. arquata</i> .....	2·732	1·914	78·719
Number of eggs in clutch—four	2·669	1·933	79·857
Condition—fresh .....	2·812	1·889	80·209
Taken on May 3rd, 1902 .....	2·794	1·901	81·329
Weight of clutch.....	.....	.....	320·114

## NUMENIUS ARQUATA—continued.

Particulars of Clutches	Length, inches	Breadth, inches	Weight, grammes
C. <i>N. arquata</i> .....	2·672	1·887	79·815
Number of eggs in clutch—four	2·702	1·882	81·112
Condition—absolutely fresh .....	2·749	1·909	85·057
Taken on April 24th, 1902 .....	2·804	1·914	86·055
Weight of clutch.....	.....	.....	332·039
D. <i>N. arquata</i> .....—.....	2·665	1·964	85·609
Number of eggs in clutch—four	2·595	1·973	85·664
Condition—absolutely fresh .....	2·799	1·937	86·367
Taken on May 2nd, 1902 .....	2·952	1·936	90·476
Weight of clutch.....	.....	.....	348·116

In preparing the above tables we had considerable difficulty in deciding what to include and what to leave out. Our original intention was merely to give particulars of the heaviest and lightest clutches examined of each species; but, on further consideration, we judged it expedient to enter more fully into the *minutiae* of the subject. In coming to this decision we were influenced by a desire to illustrate the gradation of variation.

While preserving the integrity of the clutches, we have arranged the eggs in ascending order. This should facilitate comparisons.

The classification and nomenclature is after that of Mr. Howard Saunders's well-known 'Manual.'

We take this opportunity of thanking friends and correspondents who, either by supplying materials for our researches, or by granting us permission to roam at will through their covers and across their moors, have ably seconded our efforts.

## MIGRATION OF BIRDS IN NORTH-EAST LINCOLN-SHIRE IN THE AUTUMN OF 1903.

By G. H. CATON HAIGH.

THE autumn of 1903 was characterized by extremely cold and wet weather, with a prevalence of strong winds, chiefly from points between N.E. and S.W. Large tracts of country were repeatedly flooded in the marsh district, especially during August and September. Indeed, all the meteorological conditions were as unfavourable to the passage of migrants as can possibly be imagined. Consequently there was very little visible migration, and the bulk of the birds passed in two great rushes. The first commenced on Sept. 19th, lasting until the 26th, and was the most remarkable movement that has occurred during recent years, not only on account of the abundance of birds, but also of the large number of species represented. Among these the most conspicuous, and by far the most abundant, was the Redstart, but the Pied Flycatcher, Willow-Wren, and Goldcrest were very numerous. The weather conditions prevailing at the time were such as might be expected to produce a great movement. A long spell of unfavourable conditions coming to an end on Sept. 18th, and giving place to a period of fine weather, with light E. and S.E. winds.

The only similar migratory movement during recent years occurred at the same period of 1892, and comprised many of the same species. They were not, however, so abundantly represented, and the rush was of shorter duration.

The second movement, in mid-October, was in no way remarkable, and calls for no particular mention. Among the most interesting occurrences of the season was the appearance of the Bluethroat in September, and the great flight of Rough-legged Buzzards in October. The scarcity of the Snow-Bunting and Brambling was also remarkable.

Shore-birds of all sorts were more numerous than for several

seasons past, but were quickly driven away from the Humber "flats" by the fusilade opened upon them by the Cleethorpes "trippers" during the first week of September.

The County Council have taken a most unfortunate and ill-advised step in the alteration of the close-time from Aug. 31st to Aug. 15th, a change which will allow of the destruction of many immature Ducks, particularly Sheld-ducks, a species which had increased considerably since the passing of the Wild Birds Protection Act.

In conclusion, I must thank Mr. H. H. Kew, of Louth, and Mr. F. Jeffreys, of Grimsby, for calling my attention to any rare birds brought to their shops for preservation.

*Turdus viscivorus* (Mistle-Thrush).—This bird was very abundant all through the autumn, large flocks assembling in the fields inland as early as July. I saw a large flock on the coast on Oct. 2nd, which was probably immigrant.

*T. musicus* (Song-Thrush).—The passage of this species commenced early, and I noticed several on the coast on Aug. 27th, and Sept. 1st and 2nd. A few took part in the great rush of small birds on Sept. 21st, but the principal passage took place in October, and Thrushes swarmed on the coast from the 3rd until the 23rd of that month.

*T. iliacus* (Redwing).—I saw a single Redwing near the coast at North Cotes on Sept. 18th, but the main immigration took place on Oct. 9th and 13th, particularly on the latter day.

*T. pilaris* (Fieldfare).—A flock of thirteen Fieldfares passed to S.W. over Grainsby on Oct. 18th, flying at a great height. Very large flocks arrived on Nov. 1st.

*T. merula* (Blackbird).—A few Blackbirds took part in the great bird-rush of mid-September. The most important movement, however, took place between Oct. 13th and 23rd. Throughout this period old and young birds of both sexes travelled together.

*T. torquatus* (Ring-Ouzel).—Dozens of Ring-Ouzels appeared on Sept. 21st with the great rush of small birds on that date. They only remained a short time, as I only saw some half-dozen on 22nd and 23rd, and none after 24th. Two or three appeared again on Oct. 13th, with Blackbirds, Thrushes, and Redwings.



*Saxicola oenanthe* (Wheatear).—First appeared on Aug. 17th, and was very abundant during the great bird movement from Sept. 19th to 23rd. Was last seen on Oct. 2nd.

*Pratincola rubetra* (Whinchat).—A few on hedges near the sea on Aug. 27th, and many among the great flight of small birds on Sept. 22nd.

*P. rubicola* (Stonechat).—Two or three on the sea-bank on Aug. 14th, and one on a hedge near the sea on Oct. 2nd.

*Ruticilla phœnicurus* (Redstart).—A few Redstarts appeared on the coast on Sept. 9th, 10th, and 16th; while on the 19th there arrived the greatest flight of the species that has taken place for the last eleven years, namely, since September, 1892, when a somewhat similar movement occurred. From Sept. 19th to 23rd Redstarts swarmed in every available covert near the coast, even frequenting turnip and clover fields. From the 23rd their numbers decreased rapidly, and few remained until the end of the month. Last seen on Oct. 2nd.

*Cyanecula suecica* (Arctic Bluethroat).—On Sept. 21st I shot a couple of Bluethroats on hedges near the coast, and at least one other was seen. Those shot were an adult male and female. On the same day my keeper, who was with me, saw a bird which he described as a Redstart, but with a bluish-grey back and bright blue tail. It perched for a moment on the hedge which he was beating only a few yards before him, and then flew away inland, and could not be found again, although much time was spent in the search. I only saw it in flight at sixty or seventy yards distance, when it seemed blue on both wings and tail. It was probably an example of *Nemura cyanura*, but, not having obtained it, identity must remain a mystery.

*Erithacus rubecula* (Robin).—Robins were extensively represented in the great flight of birds on Sept. 19th, and continued in great abundance until Sept. 26th.

*Sylvia cinerea* (Whitethroat).—Unusually scarce all the autumn, though small numbers were present in the vicinity of the coast from Sept. 2nd to 26th, and a single bird on Oct. 9th.

*S. curruca* (Lesser Whitethroat).—First appeared on coast on Aug. 11th, and a few were present at intervals up to Oct. 7th.

*S. atricapilla* (Blackcap).—I shot a female Blackcap in a hedge near the sea-bank at North Cotes on Sept. 21st.

*S. hortensis* (Garden-Warbler).—One or two of these Warblers appeared on the coast on Sept. 19th, and again on 22nd.

*Regulus cristatus* (Goldcrest). — The first Goldcrest appeared on the coast on the unusually early date of Sept. 7th ; from this time to the 13th a few were generally to be seen, but during the great "rush" of small birds between 19th and 26th the species was abundant on all trees and hedges in the coast district. They then became scarce till Oct. 7th, when a second but much smaller migration set in, lasting till the 21st. I saw Goldcrests on the coast for the last time on 26th.

*Phylloscopus rufus* (Chiffchaff).—Chiffchaffs appeared singly at intervals between Sept. 9th and Oct. 9th. One which I shot on Sept. 10th was a very small and dull-coloured bird.

*P. trochilus* (Willow-Wren).—An extremely heavy migration of this species took place, commencing as early as Aug. 11th, and continuing with little intermission till Oct. 7th. It was, however, during the great "rush" of Sept. 19th to 25th that the passage of these little birds reached its height, and from the 21st to 24th they were more numerous along the coast than I have ever known them before.

*Acrocephalus streperus* (Reed-Warbler).—Always a scarce migrant. I shot single individuals on hedges near the coast on Sept. 18th and 19th.

*Locustella naevia* (Grasshopper-Warbler).—I shot an example of this species in a hedge near the Marshchapel sea-bank on Sept. 23rd.

*Accentor modularis* (Hedge-Sparrow).—A few came on with the other small birds on Sept. 19th.

*Parus major* (Great Titmouse).—Only one seen at North Cotes on Sept. 9th.

*P. cæruleus* (Blue Titmouse). — Very scarce ; a few appeared on Sept. 9th and 10th.

*P. palustris* (Marsh Titmouse).—I saw a small flock at Keelby on Feb. 22nd, 1904.

*Troglodytes parvulus* (Wren).—First appeared on the coast on Sept. 23rd, a good many arriving on 30th, and a still larger number on Oct. 23rd.

*Motacilla lugubris* (Pied Wagtail).—Very scarce throughout the autumn. Several on the sides of North Cotes sluice on Oct. 9th.

*M. melanope* (Grey Wagtail).—First appeared at North Cotes on Sept. 23rd.

*M. raii* (Yellow Wagtail).—A few young birds on Aug. 14th. Several, both old and young, on Sept. 2nd, and three seen at Fenby on the very late date of Oct. 5th.

*Anthus trivialis* (Tree-Pipit).—First appeared on Sept. 7th, and was fairly numerous from Sept. 19th till Oct. 2nd.

*A. pratensis* (Meadow-Pipit).—Very abundant from Sept. 9th to 22nd.

*A. obscurus* (Rock-Pipit).—Many Rock-Pipits arrived all along the coast on Sept. 19th.

*Lanius collurio* (Red-backed Shrike).—Two Red-backed Shrikes, which I saw at the shop of Mr. H. H. Kew, of Louth; were said to have been killed near Alford in the summer.

*Muscicapa atricapilla* (Pied Flycatcher).—A few Pied Flycatchers were usually present on the coast hedges from Aug. 24th to Sept. 18th. On 19th scores of these little birds appeared, and remained abundant till the 23rd, a few staying till the 26th.

*M. grisola* (Spotted Flycatcher).—Always a scarce migrant. A few appeared on Sept. 19th, and again on 23rd.

*Hirundo rustica* (Swallow).—I noticed many Swallows coming in to roost on a gorse Fox-covert at Grainsby in September. I have not previously seen Swallows roost in gorse. Swallows decreased much in numbers on Oct. 9th, and I saw none after the 13th.

*Ligurinus chloris* (Greenfinch).—Appeared abundantly in the coast hedges on Oct. 13th.

*Carduelis elegans* (Goldfinch).—I saw no Goldfinches in the autumn, but on Feb. 8th, 1904, I observed a flock of about a dozen at Grainsby. On March 3rd they were abundant on some thistle-grown fields at Ludborough.

*Passer montanus* (Tree-Sparrow).—Some small flocks along the sea-bank, with House-Sparrows, on Dec. 24th.

*Fringilla cælebs* (Chaffinch).—Many Chaffinches—all cocks—in the coast hedges on Oct. 13th.

*F. montifringilla* (Brambling).—Very scarce; I saw none on the coast, but I noticed a large flock at Normanby on Dec. 10th.

*Linota flavirostris* (Twite).—Twites appeared abundantly in flocks on the sea-bank and "fitties" on Oct. 13th.

*Sturnus vulgaris* (Starling).—Were very abundant throughout the early part of the autumn. On Oct. 13th large flocks came in to the coast from E.

*Corvus corone* (Crow).—A flock of twenty close to the coast on Sept. 24th.

*C. cornix* (Grey Crow).—Many Grey Crows travelling N.W. along the Humber coast on Oct. 20th, and again on 21st; on the latter day till nearly four o'clock.

*C. frugilegus* (Rook).—Rooks came in in considerable numbers on Oct. 20th and the three following days, the direction of flight being E. to W. The end of the passage usually took place early in the afternoon, but on the 21st it continued till a quarter to four o'clock. A few Rooks again came in on Nov. 5th and 18th.

*Alauda arvensis* (Sky-Lark).—Not nearly so heavy a migration as last year. I noticed a good many coming in on Oct. 13th, and again on 26th, the direction of flight being N. to S.

*Cypselus apus* (Swift).—A very large flock of Swifts on the sea-coast on Aug. 11th. Last seen on Sept. 1st.

*Caprimulgus europæus* (Nightjar).—One was shot in a turnip-field near the coast on Sept. 21st, and another, also in turnips, at Grainsby on Oct. 4th.

*Dendrocopus major* (Pied Woodpecker).—I saw one on a dead tree at Tetney on Nov. 18th, and at the end of the month they were very numerous in the district.

*D. minor* (Lesser Spotted Woodpecker).—I shot a couple of these birds on Jan. 3rd, 1904, at Grainsby, and others are said to have been seen in the neighbourhood about the same time.

*Alcedo ispida* (Kingfisher).—First seen on Grainthorpe Haven on Sept. 4th. On Sept. 7th I put one out of a thick hedge near the sea at North Cotes, while on the 18th and subsequent days they were quite numerous in the vicinity of the coast.

*Cuculus canorus* (Cuckoo).—The last Cuckoo was seen at Grainsby on Sept. 10th.

*Strix flammea* (White Owl).—I saw a Barn-Owl in a plantation near the sea on Sept. 23rd.

*Asio accipitrinus* (Short-eared Owl).—On Oct. 13th one of



these Owls was found in a disabled condition under the telephone-wires near the North Cotes coastguard station. I kept this bird in confinement, and found that it would eat any bird or animal offered to it except a Rabbit.

*Buteo lagopus* (Rough-legged Buzzard).—On Oct. 15th I watched two of these Buzzards come in from the sea, and pass inland to the S.W. One of them appeared much exhausted, and perched on the ground several times, where it was at once mobbed by large flocks of Starlings. Two were seen and one shot on the Humber bank above Grimsby on 16th. The latter bird I saw at Jeffreys' shop at Grimsby. H. H. Kew, of Louth, also had one of these birds, which was shot at Worlaby on Nov. 19th.

*Haliaeetus albicilla* (White-tailed Eagle).—Though not strictly belonging to the autumn migration, it may be noted here that an immature Eagle of this species frequented the park at Grainsby for two days, on Feb. 27th and 28th, 1904.

*Accipiter nisus* (Sparrow-Hawk).—Several Sparrow-Hawks appeared in the vicinity of the coast on Sept. 11th, and again on 23rd. Most of them seemed to be young birds.

*Pernis apivorus* (Honey-Buzzard).—Mr. H. H. Kew, of Louth, showed me one of these birds, which had been killed at Tathwell on Oct. 10th.

*Falco aesalon* (Merlin).—I saw a Merlin on the sea-bank at North Cotes on Sept. 19th, and another on Oct. 7th near the same place.

*F. tinnunculus* (Kestrel).—Fairly numerous throughout the autumn, particularly about Sept. 11th.

*Anser segetum* (Bean-Goose).—I saw a flock of seven of these Geese flying low over Bradley Wood on Oct. 10th. One was shot at North Cotes on Dec. 9th.

*A. brachyrhynchus* (Pink-footed Goose).—First seen on Sept. 12th, a flock of about forty near the coast at Tetney; again, a flock of a dozen at North Cotes on Sept. 23rd. During the first half of October the flocks of Geese were quite numerous.

*Cygnus bewicki* (Bewick's Swan).—One of these Swans was shot at North Cotes by a wildfowler called Stubbs on Jan. 1st, 1904.

*Spatula clypeata* (Shoveler).—On Aug. 14th I saw two broods

of Shovelers on a rush-grown creek at Tetney, which had no doubt been bred in the vicinity.

*Nettion crecca* (Teal).—I saw a few at Tetney on Aug. 14th, but Teal were extraordinarily scarce during the autumn.

*Mareca penelope* (Wigeon).—First flock of Wigeon seen at Tetney on Sept. 23rd.

*Fuligula ferina* (Pochard).—One was shot on the pond at Elkington Hall on Nov. 12th.

*F. cristata* (Tufted Duck).—A young Tufted Duck was shot at Elkington, in company with the Pochard above mentioned, on Nov. 12th.

*Columba palumbus* (Wood-Pigeon).—Large numbers of Pigeons came into the country between Nov. 15th and 23rd. Another immigration probably took place just before Christmas, but the great flocks continued to increase till about Feb. 8th, after which their numbers rapidly declined.

*Turtur communis* (Turtle-Dove).—Owing probably to the cold and wet weather, the bulk of the Turtle-Doves left before the end of August. I saw the last bird on Sept. 11th.

*Rallus aquaticus* (Water-Rail).—I saw the first Water-Rail at Tetney on Nov. 18th.

*Charadrius pluvialis* (Golden Plover).—The first flock of about a hundred came in from the north with Peewits on Oct. 9th. They were, however, scarce during the winter.

*Squatarola helvetica* (Grey Plover).—I saw a small flock of Grey Plovers at Marshchapel on Sept. 18th, and a larger one at North Cotes on 21st.

*Vanellus vulgaris* (Lapwing).—I first saw Peewits travelling on Sept. 30th, and a few were coming in throughout October. During November they were much more abundant, particularly about the 18th and 20th, but, probably owing to the large extent of flooded land, the decoymen were not very successful.

*Streptilas interpres* (Turnstone).—A single bird at Marshchapel on Sept. 18th.

*Hæmatopus ostralegus* (Sea-Pie).—Some large flocks appeared at North Cotes on Aug. 24th.

*Scolopax rusticula* (Woodcock).—The first Woodcock that I heard of was shot at Beelsby on Oct. 13th. I saw two at Antby on 17th. On the whole it proved a good Woodcock season.

*Gallinago caelestis* (Snipe).—Snipe were singularly scarce all through the autumn, but a considerable flight appeared on the coast on Dec. 3rd, with the sudden thaw of a heavy fall of snow.

*G. gallinula* (Jack-Snipe).—Jack-Snipe were also scarce. I shot the first at Tetney on Sept. 26th.

*Tringa minuta* (Little Stint).—A single bird of this species appeared at North Cotes on Sept. 4th, and another on 12th, while several were present on the 21st and 23rd.

*T. subarquata* (Curlew-Sandpiper).—Scarce; I saw three at North Cotes on Sept. 19th, and four on 21st, with some Little Stints.

*T. striata* (Purple Sandpiper).—Mr. Kew, of Louth, had a Purple Sandpiper which was shot at Marshchapel on Nov. 9th.

*T. canutus* (Knot).—A large flock appeared on North Cotes sands on Sept. 9th, but the principal immigration of the season took place on Nov. 18th, when very large flocks arrived.

*Calidris arenaria* (Sanderling).—I noticed a few of these birds on the sands at Donna Nook on Sept. 4th.

*Totanus hypoleucus* (Common Sandpiper).—The first Common Sandpiper appeared at Tetney on Aug. 11th.

*T. glareola* (Wood-Sandpiper).—I saw a Wood-Sandpiper at North Cotes on Aug. 21st, and shot one near the same place on Sept. 9th.

*T. ochropus* (Green Sandpiper).—First seen at North Cotes on Aug. 11th, and was quite numerous on 14th. Green Sandpipers became much scarcer by the middle of September, but I saw one or two at North Cotes on the 19th, and a single bird on Thoresby Fleet during a heavy snowstorm on Nov. 30th.

*T. calidris* (Redshank).—A good many Redshanks on Tetney Haven on Aug. 17th, and very abundant on 29th.

*T. fuscus* (Spotted Redshank).—I saw an example of this species at North Cotes on Aug. 21st, and another was caught by a Plover-catcher at Tetney on Sept. 4th.

*T. canescens* (Greenshank).—A few Greenshanks appeared on Tetney "fitties" on Aug. 17th, and they were quite numerous by the 21st. Few remained after Sept. 9th.

*Numenius arquata* (Curlew).—Curlews were abundant on the coast as early as Aug. 17th, though I saw none on the 11th.

*N. phæopus* (Whimbrel).—Two or three Whimbrels on Tetney "fitties" on Aug. 13th. They were numerous both on the "fitties" and inland on 21st, and were last seen on Sept. 21st.

*Sterna fluviatilis* (Common Tern).—Terns were scarcer than usual. On Sept. 4th I saw a good many off Donna Nook, most of which were of this species.

*S. macrura* (Arctic Tern).—On Aug. 24th I noticed a flock of these Terns flying over the fields near the sea at North Cotes.

*Stercorarius crepidatus* (Arctic Skua).—Very scarce; on Sept. 4th I saw two—both dark birds—off Donna Nook.

*Podiceps fluviatilis* (Little Grebe).—A good many Dabchicks appeared on Thoresby Fleet on Nov. 30th, at the commencement of a heavy fall of snow.



## ORNITHOLOGICAL NOTES FROM KILLALA BAY AND THE MOY ESTUARY.

BY ROBERT WARREN.

NOTWITHSTANDING the very mild and wet but stormy winter of 1903-4, the Wigeon appeared in quite as large numbers as in our most severe seasons, such as 1878-9 and 1880-81, flocks of five and six hundred birds being observed where one hundred and fifty to two hundred would be met with in ordinary years. Owing to the almost continuous stormy weather, very few were obtained by punt-shooters, the waters of the estuary being far too rough throughout the season for successful punt-gun shooting; and another cause that helped to protect the Wigeon from their enemies on the water was the fact that of late years they have changed their haunts by day, and instead of, as formerly, resting on the banks of the channels in various parts of the estuary, they now all assemble, along with Pintails, in one great company, on the sands outside the Island of Bartragh, resting just inside the breakers of the bar, where neither boat nor punt can approach them. Nothing can be more tantalizing to the shooter than to see those dense masses of fowl resting and sleeping, quite free from disturbance, within a few hundred yards, but perfectly unapproachable. Then at night they scatter about the banks of the estuary to feed, but there is scarcely any night shooting by moonlight, because the small extent of *Zostera* bank lying close to the land is quite shaded by the shadows thrown by the surrounding high land.

The Wigeon are well able to take care of themselves and avoid the shooters, and I quite agree with what Mr. Abel Chapman says of the Wigeon in his 'Bird-life on the Border,' p. 183, where he estimates that only from ten to fifteen per cent. of the great number that visit his district are obtained by shooters; while here I can safely say that in this estuary half his estimate would be nearer the number; so there is little fear of the

race of Wigeon being unduly diminished, either here or on the Durham and Northumbrian coasts.

In contrast to the large numbers of Wigeon observed this winter, Pintails were not nearly so numerous as last season, when flocks of one hundred to one hundred and fifty birds were to be met with; while this winter forty to fifty might be the average number seen in their usual haunts about the estuary. Pintails are very partial to feeding wherever fresh water runs down from the land, and on part of the sands near one of my fields a small flock of these ducks may be seen almost daily throughout the winter and spring, feeding where a little stream, after leaving the shore, spreads out on the sands. Pintails sometimes remain late into spring; last season I observed them on the sands up to the 23rd of April, while this spring I did not see them after the 25th. They become very much tamer as the spring season advances, much more so than Wigeon, and will allow me to walk up to one hundred and fifty or two hundred yards from where they rest on the sands, while Wigeon would not let me approach within twice that distance. This tameness is the more remarkable, because during the shooting season they are far wilder than Wigeon, and take alarm at the approach of a shooting-punt, rising long before Wigeon think of moving off. It is impossible to estimate the numbers of Wild Ducks in this district, because they do not leave their inland feeding-grounds for the sea-side unless driven down by severe frosts, and nothing less than eight or ten degrees of frost will cause their appearance in any numbers in the estuary.

They are extremely sensitive to changes of temperature, and on the slightest sign of a thaw after frost they all disappear that night from the estuary, returning to their inland haunts in bog and lake before morning. The greatest number of Wild Ducks that I ever saw was in the winter of 1880-81, when they appeared to be almost as numerous as Wigeon, but then they were frozen out of all their inland haunts.

The three species of waders—Green Plover, Curlew, and Golden Plover—have also increased very much, the two former enormously so; but the reason for this great increase in their numbers of late years is difficult to explain, though I may suggest that the great decrease of tillage farming, resulting in a vast

increase of pasture lands in this province, may be partly the cause of larger numbers visiting the district than in former years, because, as all these birds obtain the greater part of their food in the grass fields, and not on the sea-shore, the larger area of pasture land now affords them a greater abundance of food than in former years. I first noticed this great increase of Lapwings in October, 1879, when they appeared in countless numbers about the estuary, probably five or six times more numerous than in ordinary years. These immense flocks haunted the sands of the estuary by day while the moon was strong, but on the return of the dark nights they deserted the sands, and kept inland altogether until the return of the moonlight, and then resumed their habit of resting on the sands by day, but only to rest, not to feed. Ever since 1879 this large increase of Lapwings visiting this district has continued, but in some seasons they come in enormous numbers, notably so in October and November, 1899, when the numbers about the estuary were really astonishing, and were added to by a second wave of migration towards the end of the latter month. Early on the morning of the 20th, my friend the late Mr. A. C. Kirkwood, of Bartragh, saw an immense flock coming in from the north, passing over the island, and flying very high, but instead of pitching at once on the sands they kept flying about for a long time as if not knowing where to alight, being strange to the place; though after a time they pitched on the sands between Bartragh and Moyne Abbey, extending for nearly a quarter of a mile. Other flocks must have come in earlier that morning, because there were many large flocks also on the sands—one inside the bar on the bay side (where I never saw Lapwings before); on the Scurmore sands; on those off Moy View, Roserk, and Castleconnor—five large flocks, irrespective of the new arrivals off Moyne; and such a gathering of Lapwings I do not believe were ever seen before, at least not in this district. It was very remarkable all that week, that, although Lapwings were in such thousands on the sands, it was quite impossible to obtain shots at any of the large stands, their restlessness being so great, the birds always rising before a punt could approach within shot. These new arrivals appeared to have imparted this state of unrest to the birds previously haunting the sands—for instance, Mr. Kirkwood, who

was out with his punt and gun all day on the 20th, found it impossible to obtain a shot, although he was one of the most successful punt-shooters that I have known. I was out myself on several other days, and with the same bad luck ; there was no approaching within shot of any, except a few straggling birds from the tail of the flock, and these so few as not to be worth a shot. It is hard to account for this excessive wildness of birds usually so easily approached, more especially as the weather was so suitable for punt-shooting, being calm, dry, and mild, a most essential state of things for successful Plover-shooting.

This great increase in the Lapwing visitation appears to be made up mostly by strangers, for there is no apparent increase of our home-breeding birds in their summer haunts, and not more than the ordinary stock of Lapwings are observed where they begin to flock in July and August, returning from the breeding-grounds. The migratory flocks did not appear last season until the end of October, when on the 25th I observed a large flock flying very high, coming in from the north-east, passing over Bartragh, and continuing their course inland towards Foxford, probably for those grand feeding-grounds, the wide expanse of meadows along the River Moy. The arrivals continued all that week, for on enquiry of a man who has good opportunities for observing birds coming in from the north, he told me that nearly daily that week he had observed large flocks of Lapwings flying very high, coming in from the north, and passing inland to the south-west. There being very little frost during the past few winters, the Lapwings did not leave for southern haunts, as they usually used to do on the appearance of the first heavy frosts, but remained all through the winter, until leaving for their breeding-haunts in March.

Golden Plover have for the past eight or ten years visited us in greatly increased numbers, and stands of five hundred to a thousand birds are often seen where formerly two hundred to three hundred would be considered large stands ; indeed, one day last winter I saw a large flock hovering over the Rinroc Sands that certainly could not have numbered less than two thousand birds. When out in my shooting-punt in the early mornings, I have been very much interested watching the Golden Plover assembling on the sands after their night's



feeding in the fields; a little after eight o'clock they begin dropping in from all directions, in little flocks of from five up to fifty birds, until about ten o'clock, when all are assembled in one great stand, where they remain resting until just before dusk, when they become very restless, and, after rising and pitching a few times, all leave, and, separating into little flocks, scatter all over the country to their several feeding-grounds. If not associating with Curlew, the punt-shooter can almost always calculate on obtaining a shot at Golden Plover, provided he has water enough to float him within shot; but if Curlew are with them he has no chance whatever, these birds rising and scaring the Plover long before he is within shooting distance. However, I have sometimes managed to obtain a shot, after driving off the Curlew without scaring the Plover, by paddling slowly by, two or three hundred yards from the flock; then the Curlew begin to get suspicious and leave in small lots, dribbling slowly away until all have left, without alarming the Plover; but if I paddled by too close, all the Curlew would have risen together and taken the Plover away with them. The foreign-bred Golden Plover often remain here long after our home-bred birds have left for their breeding haunts. On April 25th, 1901, I met, in a field at Doneen, near this place, a flock of over a hundred birds, all in the black-breasted breeding plumage, and they were so remarkably tame as to allow me to walk up within twenty or thirty yards to observe them, evidently showing that they were fatigued by a long flight from the south, and were resting before continuing their northern flight.

The Curlew is another bird that has increased enormously of late years, but not by any increase in our home-bred birds, for in the breeding-season they are scattered very thinly over their vast extent of breeding grounds. The immense flocks that appear on the sands in autumn are almost incredible, and should be seen to be believed in. One day this past winter I saw on the wide expanse of sands already spoken of as haunted by the Golden Plover, absolutely acres covered by immense flocks of Lapwings, Golden Plover, Curlew, and Godwits—a sight that must be seen and not imagined. It was the largest assembly of land-birds that I ever saw. To give some idea of the numbers of Curlew seen that day, there was a flock on the "White

Strand," the Scurmore Bank, the Castleconnor Bank, the Roserk Bank, and the Bank here off Moy View. I attempted to count the latter, but got confused when I came to a hundred, and there were certainly ten times that number; so, without exaggerating, I may safely estimate that flock as consisting of a thousand birds, and this was only an average-sized flock compared with the others.

## NOTES ON A FEW BIRDS, CHIEFLY MIGRATORY AND NOMADIC, OBSERVED IN THE VICINITY OF HOBART.

By JAMES R. McClymont, M.A. (M. Austral.O.U.).

TWELVE months' residence in the vicinity of Hobart yielded opportunities for studying the habits of several birds which visit the south of Tasmania.

Pallid Cuckoos (*Cuculus pallidus*) were first observed on Aug. 30th, 1902. On that day two birds were seen to arrive at a high rate of speed ; after settling on several trees in succession they continued on their way, and were speedily lost to view in the bush which clothes the hills that border the western shore of the Derwent. The Dusky Robin (*Petroeca vittata*) was the only foster-parent of Pallid Cuckoos, which I knew to be nest-building in the district at this time. Four weeks later at least two others of their foster-parents were building near us, namely, the New Holland Honey-eater (*Meliornis novæ-hollandiæ*), and the Yellow-throated Honey-eater (*Ptilotis flavigularis*). Whether Cuckoos of this species have paired before their arrival in the south of Tasmania, or arrive there unmated, has, I believe, not been ascertained. Nor is it known whether the return journey is made by males and females together, or separately. As will appear shortly, young and old birds may not migrate in company. Pallid Cuckoos appear to be regarded with curiosity by various small birds. On one occasion a small bird was seen fluttering before a new-comer, as if under the influence of irresistible attraction. On another occasion a Yellow-throated Honey-eater was seen to dart repeatedly at a Pallid Cuckoo—strange conduct which evoked no demonstration of hostility from the migratory bird. At first I ascribed the movements of the Honey-eater to sportiveness, but when, on a subsequent day, a bird of the same species suddenly darted at my head, I came to

the conclusion that inordinate curiosity was the real motive of these strange actions.

The last Cuckoo of the season was seen on March 9th—a young female bird, clad in the variegated feathering which may be regarded as the ancient garb of the tribe. For several days it had been flitting restlessly from one perch to another, as if uncertain in which direction to take flight. At last it was fired at, flew away, apparently uninjured, on the right course, but in its agitation must have come in violent contact with a tree or other obstacle, for it was found dead near the place where it was last seen alive. No mature Cuckoos had been seen for several weeks.

Spine-tailed Swifts (*Chætura caudacuta*) were not observed until March 21st, when three or four were seen flying low. They passed by so near that one could hear the whizzing of their wings very distinctly—a thrilling and eerie sound, comparable to no other sound that I know in the whole realm of birds. The largest number seen at one time—about thirty in all—passed northwards on the 22nd of the same month, but solitary birds returned southward from time to time, coursing through the air with matchless velocity. Welcome Swallows were generally present at the same time. The last Swift was seen on April 8th. They remained longer in the north of the State, and appear there with greater regularity and in greater numbers.

In not a few families the shafts of the rectrices are stiff, and in some are also somewhat sharp at the ends. They are so with the Woodpeckers, in certain of which (as *Colaptes*) these feathers are also acuminate. The stiff shafts facilitate the ascent of tree-trunks, or the maintenance of a stable position upon the trunk. In the Spine-tailed Swift the ends of the shafts are veritable pin-points, capable of penetrating the skin and drawing blood. The use which the Swift makes of these sharp-pointed shafts is, I believe, unknown. If, in a matter of this sort, the argument from analogy is of any value, they must be used to assist the bird to cling, not to the boles of trees, but to some perpendicular surface of great hardness, such as that of a precipitous cliff.

The Swift Lorikeet (*Nanodes discolor*) was the only member of the order of the Parrots which I encountered during the period embraced by this article. On Aug. 17th the opercula



began to fall from the blue gums, and on the following day a reconnoitring party of Swift Lorikeets appeared, but only remained for a few minutes, as the season of blossom was not yet sufficiently advanced to yield their food. We saw no more of them until Sept. 14th; from that day until the end of November they visited the blue gums in our quarter every day. The latest blossom then withered, and we saw no more of the Lorikeets. During the time of their visits Crescent Honey-eaters were also plentiful, and the two species were often to be seen in the same tree. The flower-cups of the blue gum (*Eucalyptus globulus*) are infested by a small ant, and by a winged insect so minute that it appears like a mere mote to the unaided human eye. When shaken out of the anthers it recurves the after segments of its body, and uses these to disengage its wings, which have been glued to its body by the sticky juices of the flower-cup from which it has been expelled. When it has accomplished their liberation the insect flies away. I doubt if even in the flying stage of its existence it is safe from pursuit by the Crescent Honey-eater, for this bird darts upon flying insects like a Flycatcher. I have also seen them, when they were stationed in a bush, protrude their tongue in the manner of Lizards, as if for the purpose of seizing insects with that member.

Swift Lorikeets visit several of the city reserves when the blue gums are in flower, and make their presence known chiefly by their whispered notes, for their plumage accords well with the colour of young leaves which receive unobstructed light. Swift Lorikeets therefore generally elude observation, except when they are flying from tree to tree over an intervening clear space. If a Butcher-bird appears within their range of vision, the whole troupe takes flight precipitately with loud outcries.

I conclude with a list of the species which I observed, or of which I obtained skins, during the time spent in the vicinity of the city. The list, of course, is not exhaustive even of the common species of the district. Several of those which are included in the list do not nest on the western shore of the Derwent, but in the gullies of Mount Wellington and other eminences. To the names of subspecies or insular varieties I have added, in brackets, the name of the species to which they are most nearly allied. In addition to the birds enumerated, an

Albatross and one or two small Cormorants were seen, but not identified, and the Bronze Cuckoo (*Chalcococcyx plagosus*) was heard on Nov. 19th, 1902.

The indigenous species which were identified were the following:—*Hieracidea orientalis*, *Ninox maculata*, *Corvus coronoides*, *Collyriocinclla rectirostris*, *Graucalus parvirostris* (*G. melanops*), *Petroeca leggii*, *P. phoenicea*, *P. rhodinogastra*, *P. vittata*, *Malurus gouldi*, *Rhipidura diemenensis* (*R. albiscapa*), *Geocichla macro-rhyncha*, *Acanthiza diemenensis*, *A. chrysorrhoa*, *Sericornis humilis*, *Calamanthus fuliginosus*, *Gymnorhina hyperleuca* (*G. leucota*), *Cracticus cinereus* (*C. destructor*), *Pachycephala glaucura*, *P. olivacea*, *Acanthorhynchus tenuirostris*, *Ptilotis flavigularis*, *Meliornis australasiana*, *M. novæ-hollandiæ*, *Acanthochæra inauris*, *Zosterops cærulescens*, *Melithreptus melanocephalus*, *Pardalotus punctatus*, *P. quadragintus*, *Hirundo neoxena*, *Anthus australis*, *Zonæginthus bellus*, *Chætura caudacuta*, *Podargus strigoides*, *Cuculus pallidus*, *Cacomantis flabelliformis*, *Nanodes discolor*, *Phaps chalcoptera*, *Larus pacificus*, *L. novæ-hollandiæ*, *Sula serrator*, *Phalacrocorax carbo*, *P. gouldi*, *Eudyptula minor*.

And the British species:—*Passer domesticus*, *Carduelis carduelis*, *Sturnus vulgaris*, *Alauda arvensis*.

Hobart, Tasmania.

## NOTES AND QUERIES.

## MAMMALIA.

Notes on the Noctule (*Pterygistes noctula*).—On July 2nd a friend and I took five Noctules out of a hollow willow-tree, about twenty feet up, at Esher, Surrey. A week later we visited the tree again, and took four more. What struck me as being remarkable was that all the Bats taken were males. Mr. Lydekker, in his 'Handbook on the British Mammalia,' says:—"It is stated that when hybernating in winter the Noctule generally associates, after the manner of many of its kindred, in separate colonies of males and females; such, at least, being the experience of Mr. J. Gurney, who further states that the number of females is greater than that of males." This certainly has not been my experience; I have always found the males far commoner. In a previous year I took several out of a hollow elm-tree at Milford, Surrey, and to the best of my recollection they were all males. Do the sexes, then, only come together in the breeding season, and is this common to all species of British Bats?—GORDON DALGLIESH (29, Larkfield Road, Richmond, Surrey).

Whiskered Bat in Oxfordshire.—A Whiskered Bat (*Vespertilio mystacinus*) flew into one of the rooms here on the night of July 20th. Curiously enough, the last I saw flew into the same room on July 19th, 1901. There are shrubs just outside the window, and numbers of moths come into the room on warm nights, attracted by the light. It seems probable that this Bat feeds largely on moths.—O. V. APLIN (Bloxham, Oxon).

## AVES.

Blackbird singing from a House-top.—Mr. Belcher's note (*ante*, p. 262) reminds me that when at Interlaken last summer I frequently noticed Blackbirds singing from the house-tops, perched either on a chimney or a gable. It struck me at the time as remarkable, and a thing which I had not observed in England. In the British Islands, however, those two most aggressive species, *Passer domesticus* and *Sturnus vulgaris*, so effectually assert a peculiar right to the house-tops

that the shy Blackbird is probably excluded. At Interlaken, in summer, all birds are remarkably tame, the Starling is not found, and the House-Sparrow seems not nearly so numerous or impudent as in English towns. The Song-Thrush is absent, being a bird of the forests and mountain slopes at the nesting-time, but the Blackbird is common, and its song seems particularly powerful and melodious. — ALLAN ELLISON (Watton-at-Stone, Herts).

Robin nesting in a Tree or Hedge.—Referring to my former note (*ante*, p. 190), and the further notes which have been made on this subject, I would remark that for a Robin to build in a hedge would not necessarily be such a deviation from its usual nesting habits as was exhibited by the nest which I have described. If the hedge were a compact and closely trimmed one, and more especially if it had a sloping front, a nest built in some recess or niche might be situated almost similarly to the usual Robin's nest on a bank-side, or in some hole of an ivy-clad wall; or a Robin's nest in a hole in the trunk of a tree not far from the ground would not have struck me as very remarkable. But the case of a nest in an isolated tree, and equally exposed on all sides, is entirely different. On p. 191 I have compared the site to that of a Greenfinch's nest, and, curiously enough, soon after the Robin's nest was removed a pair of Greenfinches commenced building in the very same spot. I showed this nest to the choir-boys, who were very interested to hear of a Robin's nest having been built there, and promised to protect the Greenfinch's nest. This they did most faithfully, and the Greenfinches successfully reared their brood.—ALLAN ELLISON (Watton-at-Stone, Herts).

The Little Bunting (*Emberiza pusilla*) in England.—Last winter I acquired a living example of the Little Bunting, which had been captured with birdlime at Pailton, near Rugby, in the beginning of October, 1902. It died a short time after I had acquired it, having passed altogether about fifteen months in captivity. It was skinned by Messrs. Williams & Son, of Dublin, who pronounced it to be a male. On the authority of Mr. Aplin, who very kindly identified the skin for me, this is the fourth example of the Little Bunting obtained in Great Britain. The first of these was taken alive near Brighton on Nov. 2nd, 1864. I have also in my collection the male Meadow-Bunting (*Emberiza cia*), which was captured alive near Thoreham at the end of October, 1902, but which, unfortunately, only survived a few months. A second bird of this species was also obtained at the same time, but perished shortly afterwards, and the skin, I understand, was not preserved. Dr. Bowdler Sharpe, who examined the bird now



in my possession, stated that this was the first appearance of the Meadow-Bunting in Great Britain, and made an addition to the British list (*cf.* Bull. British Ornithologists' Club, No. xciv. pp. 38, 39).—C. J. CARROLL (Rocklow, Fethard, Co. Tipperary).

**Albinism in the Magpie.**—I have recently added to my collection an albinic example of the Magpie (*Pica rustica*). This bird, which is immature, was captured with birdlime at Kirbymoorside, in Yorkshire, on June 4th last, but died from inanition a week later. The plumage is pure white throughout; the feet, legs, and beak are also white; and the eyes, as in all true albinos, are pink. I have only two previous records of albinism in the Magpie—one for Cornwall, and the other for Wexford.—C. J. CARROLL (Rocklow, Fethard, Co. Tipperary).

**Young Cuckoo in a Twite's Nest.**—With reference to the note by Mr. Wilson (*ante*, p. 264), giving the history of a young Cuckoo in a Twite's nest, it might be pointed out that the occurrence of a young Cuckoo in the nest of a Twite would be in itself a very interesting and unusual fact, and also that May 25th would be a rather early date for a young Cuckoo to be hatched out, at least as far north as Aberdeenshire. May 1st is mentioned as the date of the bird's first appearance in that neighbourhood this year. If the identification was correct, a far more interesting question in connection with the occurrence would have been as to how the Twites were capable of feeding a young Cuckoo, and whether the death of the latter may not have been due to the fact that they did not give it its natural insect-food. The Twite is not an insectivorous bird, and, in common with the Linnet, Redpoll, Goldfinch, Greenfinch, Bullfinch, and other seed-eating Finches, feeds its young by disgorging seeds already partly digested in its own crop, although the adult birds doubtless at times eat insects as well as seeds. I have often watched these seed-eating Finches in the act of feeding their young, and so closely that I could see the food, a white creamy substance being passed by the parent bird into the open gapes of the nestlings, each of which received a full meal on the visit of the parent bird to the nest. Is a young Cuckoo capable of being fed in this way, and, if so, can it be successfully reared on such food? I should like to know whether any good field naturalist has ever settled this question. It is well known that the usual foster-parents of the Cuckoo are the small insect-eating birds, but the Cuckoo has been known to deposit its egg in the nest of one or other of the seed-eating Finches, but whether the latter are successful in rearing the young intruder is a different matter. Occasionally the Cuckoo entrusts its young to the

care of one of the Buntings, but these birds, although largely seed-eaters, feed their young on insects and grubs, as I know from frequent observation. The statement is made that in this case the young Cuckoo was very like the young Twites, but with a larger mouth. Now, as the Cuckoo's egg is about three times the size of a Twite's, and the young Cuckoo grows with great rapidity, the superior size of the latter would be at once apparent. The suggestion that the Cuckoo could have devoured the flesh of its own young one is improbable. The soft bill and wide gape of the Cuckoo are adapted for capturing the large insects and caterpillars which form its food, and which the bird swallows whole, and it could not tear the flesh from the bones of a young bird so as to leave the skeleton bare, even if it had the will to do so.—ALLAN ELLISON (Watton-at-Stone, Herts).

[Mr. Wilson's observations on young Cuckoos being found in the nest of the Twite, which acts as a foster-parent, have now been continued for a number of years, and detailed in these pages. He has also raised the problem of suitable food referred to by Mr. Ellison, *supra*; cf. Zool. 1897, p. 365; 1898, pp. 270, 359, and 431; 1900, p. 481; and 1902, p. 354. He has also frequently expressed the opinion, based on his own observations, that near Aberdeen the Twite is the most usual foster-parent of the Cuckoo. We have every confidence in Mr. Wilson's observations.—ED.]

**The Kite in Cheshire.**—Although the Kite (*Milvus iclinus*) nested in Cheshire at the end of the eighteenth century, as we learn from a remark of the first Lord Stanley of Alderley, who says, when describing Alderley Park in a letter written in 1791, "The silence that reigns there is only broken by the shrieks of the large Kites, which constantly build their nests in the neighbourhood, and the calls of the Teal and Wild Duck to each other on the mere" ('The Early Married Life of Maria Josepha (Holroyd), Lady Stanley,' p. 100), the visits of the bird to the county had become infrequent by the middle of the last century. It is therefore worth noticing that a hitherto unrecorded specimen of a Kite killed in the county is in existence. This bird, which is in immature plumage, was shown to me by Mr. Thomas Davies, of Lymm, who shot it at Booth Bank, Millington, in "the forties." He killed it in the month of August, and, though interested in birds, had on no other occasion seen a Kite in that locality. — T. A. COWARD (Bowdon, Cheshire).

**Night-Heron in Lancashire.**—Mr. Davies, of Lymm, Cheshire, has in his possession an adult Night-Heron (*Nycticorax griseus*) which was killed at Newton-le-Willows some "ten or twelve years ago." Mr.

Davies, when he showed me the bird, told me that he had it in the flesh from the man who shot it, and that he set it up himself. The Night-Heron is of very casual occurrence in both Lancashire and Cheshire.—T. A. COWARD (Bowdon, Cheshire).

**Ornithological Notes.**—As I was leaving my brother's residence on Shooter's Hill, Plumstead, early one morning about the third week in June, he pointed out to me a pair of Swifts, which were breeding in the nest of a House-Martin. It is rather singular that this species should not breed in this immediate neighbourhood; it has made one or two attempts, but unsuccessfully. It is, however, by no means uncommon; especially is this so on fine evenings in July, when they may be seen hawking for flies at a great height. One of my sons last June showed me a nest of the Grey Wagtail built near a waterfall, and which contained a clutch of eggs, all of which were white. He also informed me of his finding a Cuckoo's egg in the nest of a Twite, which is the first instance I have known in this district, although I was informed some time ago by Mr. Wilson that this is by no means an uncommon occurrence near Aberdeen. The egg in this instance was of the type usually found in this district, and which approximates in colouring to that of the Sky-Lark. A light variety of the Cuckoo's egg was lately shown me, which had been found in the nest of a Meadow-Pipit, which contained dark eggs, even for this species. I have only once previously met with this light variety of Cuckoo's egg, and it was deposited in the nest of a Titlark, which contained abnormally light-coloured eggs, similar to those of a Pied Wagtail.—E. P. BUTTERFIELD (Wilsden, Yorks).

**Birds singing at Night.**—On July 15th a Hedge-Sparrow was singing in Teddington at 10 p.m., and I heard one in Richmond on the same night at 11 p.m. On the 16th and 17th, while I was staying in Milford, Surrey, I was surprised to hear a Wren singing loudly at 11.15 p.m. (this was on the 16th), and on the night of the 17th a Turtle-Dove was cooing at 12 p.m. The only other birds I have heard singing at night, with the exception, of course, of the Nightingale, were the Sky-Lark and Cuckoo. I wonder if the very hot weather we have been having lately had anything to do with the birds being restless and awake.—GORDON DALGLIESH (29, Larkfield Road, Richmond, Surrey).

**Bird Slaughter for Feminine Fashion.**—This silly craze for the decoration of ladies' hats with the feathers and skins of unfortunate birds killed in the breeding-season, and thus leaving their young

ones to suffer the slow and cruel death by starvation, is really too bad ; and there is no safety even in the close-time, as an advertisement in the ' Irish Times ' of the 15th and 16th inst. shows, *viz.* : " Some hundreds Terns (Sea-Swallows) required for stuffing ; 6s. per dozen given." Is there no way of saving our lovely Terns from such wholesale destruction ? The offer of sixpence each is quite enough to tempt idle fellows to shoot them down at the breeding-grounds, and when, to my certain knowledge, even on July 31st, the end of the close-season, fully one-third of the young birds will be still unable to fly, and in consequence will starve to death if the parents are destroyed. The close-season for sea-birds ought to be extended to Sept. 1st, in order to give time for the late breeding birds to get safe away from the breeding-grounds.—ROBERT WARREN (Moyview, Ballina).



## NOTICES OF NEW BOOKS.

*The Natural History of some Common Animals.* By OSWALD H. LATTER, M.A. Cambridge: at the University Press.

THE author of this volume recognizes the need for a new departure in the elementary teaching of zoology. When we take stock of the tangled mass of information which constitutes what we are pleased to call our scientific knowledge, we cannot fail to regret its many imperfections, its detail as regards the organism combined with its ignorance of the status of a living creature. We find ourselves either systematists, comparative anatomists, philosophical evolutionists—anything but sympathetic students of another animal life than our own; in fact, we have bartered our knowledge of living creatures in order to become museum specialists. And if we retrace our studies to their starting-point, we shall soon discover our infirmities as due to the original sin in teaching. We have dissected the animal for structural knowledge; have compared it with its allies for taxonomical purposes; have theorized over its appearance in connection with its environment; have looked at it in every other way than as a fellow living creature, with a problem of existence as difficult to understand as that of our own. We have been simply regarding organized automata, or copying the vices of the old historical method. However, the writing on the wall is—back to nature, and the bionomical method will come by its own.

Mr. Latter, in the preface, gives us his conclusion, that "Sixteen years' experience has convinced me that we have been too closely wedded to structure, and have wrongly divorced function from our elementary courses of instruction. Structure alone is very liable to become dry bones in very deed, and consequently to fail to attract that interest without which good work is almost impossible."

In order to advance this new teaching of zoology, which may

be likened to acquiring a knowledge of everything of something, in order to have a general knowledge of everything. Mr. Latter has chosen a few animal types as the best to suit his purpose. These are the Earthworm, Leech, Crayfish, Cockroach, Dragonfly, Wasp, Fresh-water Mussel, Snail, Slug, Frog, Toad, Newt, and some common internal parasites of domestic animals, and of these he has given us a full biological and bionomical narrative, phenomenally free from prevalent theoretical conclusions. Thus we are told of the enemies and parasites which destroy these creatures, but are spared the recital of ingenious guesses as to non-apparent protective or mimicking disguises which may or may not act as deterrents. In fact, we know of scarcely any other publication in which so much information is given as elementary, which in some points may have remained beyond the purview of advanced students, and without the intention, but with all the risk of being considered encomiastic, we heartily recommend this volume to the ever-increasing confederacy of young zoologists.

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*Manuale di Ornitologia Italiana.* Del Conte Dott. E. ARRIGONI  
DEGLI ODDI. Milano: Ulrico Hoepli.

IN these pages (1902, p. 357) we drew attention to the larger work, 'Atlante Ornitologico,' written by the author of the above Manual, and we now welcome this very portable handbook to the birds of Italy. The same thoroughness in introduction to the general subject is found in both volumes, though, in this Manual, abbreviation has, of course, been found necessary; but the general method is similar, and the diagnoses are particularly clear and sufficient. To most English visitors to Italy, "all roads lead to Rome," but to those who can for the time forget this fount of classicalism, and pursue the paths of ornithology, this *vade mecum* must and will prove a necessary and valuable companion. In size it is well adapted to the valise, but perhaps requires stronger binding, and we congratulate its writer on the production of some nine hundred small octavo pages, which are adequately informative, and in the best sense constitute a 'Manuale di Ornitologia Italiana.'

*Faune Entomologique Armoricaine. Hémiptères, Hétéroptères.*

Par J. GUÉRIN et J. PÉNEAU. Rennes: Fr. Simon, successeur de A. le Roy.

"Des Hémiptères bretons" belong to a now no longer neglected order of insects, but distinctly to an unenumerated local fauna, and Messrs. Guérin and Péneau have done well in commencing this work, while we are glad to read that the "Conseil de l'Association française pour l'Avancement des Sciences" have made a grant of four hundred francs to the authors of the 'Faune Entomologique Armoricaine' to accelerate the publication of their work. This first instalment deals with the Families *Pentatomidæ*, *Coreidæ*, and *Berytidæ*, and figures are given of all the species, though the printing of the same is a little crude. The classification in the last catalogue of Puton is followed, and the publication is prepared with care, and will doubtless prove of great value as describing the Rhynchota of a most interesting portion of France.

## EDITORIAL GLEANINGS.

THE homeward-bound liner, 'Ville de Maranhao,' brings seven Chimpanzees and a young Gorilla ticketed for the Pasteur Institute in Paris, where they will be taken in hand by the celebrated Professors Metchnikoff and Roux, in connection with the study of various diseases common to men and women. The Apes are in charge of M. Rousseau, a high functionary of the French Congo.—*African World*.

WE have received the Report of the Transvaal Trout Acclimatisation Society, from the energetic Secretary, Mr. H. A. Fry, of Johannesburg:—

"The first attempt at introducing Trout into the Transvaal was made by Sir Percy Fitzpatrick, who, in October, 1900, obtained some two hundred and fifty fry from the Cape Government Hatchery at Jonkershoek, near Stellenbosch, which he brought with him by rail to Johannesburg. Owing to the state of war which then prevailed, and the consequent delays in railway travelling, great difficulty was experienced in keeping the fish. Nevertheless, a fair number survived the journey through the Cape and Orange River Colonies. At Elandsfontein, however, the fish were delayed a long time with disastrous results, and, owing to the impossibility of telegraphing, no satisfactory arrangements for their reception had been made, with the result that the few fish which did reach Johannesburg all died.

"By far the most destructive creature to young fry is the Water Toad (local name, *Plaatanna* or *Plaatje*), a web-footed, slimy-looking amphibian, with rather a pointed head. I do not consider they can do much harm in a river, but in a fry-pond they are very destructive. I have taken as many as thirty-two fry from the stomach of one of these Water Toads, caught in one of my fry-ponds in Cape Colony. As the fry-ponds can easily be protected with wire-netting, the danger is reduced to a minimum.

"The same remark applies to Kingfishers, which can be kept in check by a judicious use of the shot-gun."\*

\* We are sorry to read this, for Kingfishers are none too plentiful even in the Transvaal.—ED.

